Polygonia c-album were in fair numbers, and were still feeding on scabious up to 11th October. Although there was a good brood of *Nymphalis io*, which was flying from 24th July till the end of September, the *Vanessidae*, *atalanta* and *cardui* were in short supply, and no autumn larvae of *Aglais urticae* were in evidence in the neighbourhood.

SEX BRANDS IN IDEOPSIS GAURA, RACE PERAKANA, FRUH. (DANAIDAE).

By L. Richmond Wheeler, Ph.D., M.Sc., F.L.S.

1. General. Distant ((1882), p. 8) said that there was no male sex mark or scent-gland on the posterior wings and distinguished the sexes only by the shape of their wings and by the female being somewhat larger on the average. Corbet and Pendlebury ((1934), p. 118) mentioned the more rounded wings of the female and stated that it is whiter than the male. Fruhstorfer ((1927), p. 215) spoke of " very striking sexual dimorphism," but only alluded to modified scales along the submedian of the male hindwing and " slight " development of androconia as characters shared with his *Radena* group of *Danais*, and a difference in the shape of the antennal clubs in the sexes of *Ideopsis* (*l.c.*, pp. 211, 216). As he agrees with other observers that the male *Ideopsis* does not possess the abdominal hair-pencils found in other Danaid genera, it is not clear why he regarded the sexual differences as being so remarkable. Apart from the sex-glands described below, the males and females in this species are not always easily distinguishable. For, as Distant noticed, the male forewings vary considerably in shape, as indeed, do those of the females; when in Malaya I did not find the females noticeably larger or whiter; the antennal clubs do not differ much in this species; and none of these authors mention any female sex markings.

2. Male. It is only lately that I have observed that the males can be picked out at a glance by the vein 1 (submedian) on their hindwing being much broader and less sharply defined than it is in the opposite sex. This modification of a single vein is quite different from the broad, brownish stain on the inner, dorsal, portion of the hindwing of the " *D. similis* L." included in Fruhstorfer's *Radena* group. The distinction between the sexes of *Ideopsis* in this vein is clearly shown in Seitz' plate 76a for the subspecies *costalis*, Mre.

3. Female. Male brands and glands are very common in Danaidae and most other butterfly families. It is, therefore, more interesting to find that the female *I. gaura*, race *perakana* possesses distinctive brands, not present in the male, which appear to have escaped notice up to the present. They occur on the forewing above, as thickenings of the inner (proximal) portions of veins 2 and 3; the latter also fuses with the veins bounding the distal end of the cell and with the large spot at the base of vein 4 there. But this spot, like others on *Ideopsis*, male and female, is definitely black; whereas the female sex markings, like the male, are dark brown, and thus distinguishable in good light from the black spot, though this is not apparent in Seitz' figure of the female *perakana* (*l.c.*). These thickenings are shown there and on the *costalis* female in ordinary black. These remarks apply also to Distant's figure (i, 4).

4. Comparative. It may be added that none of these structures occur in *Hestia* species; and in most *Danais* species the hindwing male glands form small patches, sometimes pouches, on veins 1 and 2. Thus *Ideopsis* appears to present special features in the female. In the male it resembles *Danais* slightly and its *Radena* group more closely. In both sexes it is more sharply contrasted than was realized before as regards secondary sexual characters from the Hestias to which *I. gaura*, race *perakana* has such considerable resemblance in general appearance and habits despite its smaller size. I can confirm Martin's statement that it consorts closely and frequently with *H. linteata*, Btlr., in Penang, usually about 1500 feet up the hill.

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TUKDAH DIARY, SEPTEMBER-NOVEMBER 1945.

By D. G. Sevastopulo, F.R.E.S.

INTRODUCTION.

Readers of the *Entomologist's Record* have been taken so often on collecting trips to the Continent that I am venturing to take them on a still longer journey, to Tukdah in the Himalayas.

As is so often the case in India, things are not as they seem, and Tukdah is really not Tukdah at all, but Hum. Tukdah proper is a village some three miles away to the west and over the next ridge. Our Tukdah, or Takdah as it is sometimes written, was formerly a military cantonment and the name was taken by the military when the cantonment was established. The cantonment was abandoned in the late twenties and the place is now a small holiday station.

Tukdah is situated some twelve miles to the east of Darjeeling, at a height of about five thousand feet, and is reached by a road leading off from the main Ghoom-Kalimpong Road. The country is partly forest, mainly Cryptomeria and hardwoods, the former without much undergrowth, the latter with plenty, and partly open hill-side, where maize and vegetables are cultivated.

My visit was planned to escape the monsoon, which normally ends about the middle of September, but this year, however, monsoon conditions continued well into October, and then, just as the weather was clearing, we had a further week of rain due to a cyclone in the Bay of Bengal.

The general impression that these hills are very rich in butterflies is not correct. The number of species occurring is, of course, far greater than in England, but I very much doubt if the number of individuals seen is as many. The valley bottoms are another story. In 1928 I did a round trip to Phalut and I shall never forget the abundance of butterflies in a field of flowering buckwheat at a place called Singla Bazar in